Vector Aviation PIREPs - v2

Domain Portfolio: Weather Imagery | Domain: Aviation | API Name: Vector Aviation PIREPs - v2 **Restricted**

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

The Feature Data Service (FDS) API provides geographic features for a number of products. The client can use these features to render a visual representation of data.

- FDS provides geometric vector data where each feature can be a set of points, a polygon or set of polygons, a linestring or set of linestrings, or any other valid GeoJSON type
- Each feature is described by a set of geographic coordinates and a set of properties.
- Each feature is uniquely identified by the *combination* of its product key, feature key and valid time; the valid time is used to assign the feature to a unique feature set.
- For additional details about FDS, please see the Weather Company Data | Data Visualization - Weather Imagery | Common Usage Guide

Using FDS products requires a multi-step workflow to retrieve the necessary data for the specific product data request. Step 2 requires the **'time'** value parameter, found in the response from Step 1.

- **Step 1:** Get Product Info - Provides time-based labels for the feature sets that are currently available.
- **Step 2:** Get Features for a Single Tile - Provides all geographic features for a single tile, taken from a single feature set within a specific product.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide.**

URL Construction

Step 1: Get Product Info
Required Parameters: **productKey,** apiKey=**yourApiKey** **||** **Optional Parameters:** meta, max-times https://api.weather.com/v2/vector-api/products/**<productKey>**/info?**apiKey=yourApiKey**
The [**/products/{productKey}/info**] request provides the labels for the feature sets that are currently available. These labels are required as input for the subsequent [**/products/{productKey}/features**] request, and they are invoked in that request's **'time'** parameter.
https://api.weather.com/v2/vector-api/products/6009/info?meta=true&max-times=12&apiKey=yourApiKey
Step 2: Get Features for a Single Tile
Required Parameters: **productKey, time, lod, x, y,** apiKey=**yourApiKey** **||** **Optional Parameters:** declutter, tile-size https://api.weather.com/v2/vector-api/products/**<productKey>**/features?time=**<time>**&lod=**<lod>**&x=**<x>**&y=**<y>**&**apiKey=yourApiKey**
The [**/products/{productKey}/features**] request provides a set of features for a single tile, from a particular feature set within a particular product. Each feature contains a small set of key metadata properties, including its ID and valid time, which are required as input for any subsequent [**/products/{productKey}/feature-details**] request, as the **'feature-id'** and **'valid-time'** parameters.
https://api.weather.com/v2/vector-api/products/6009/features?time=1492016701805&lod=10&x=175&y=409&tile-size=256&apiKey=yourApiKey

Product Data Dictionary: 6009 - Aviation PIREPs

The source of the data for PIREP (Pilot Report) includes Government sources of WMO bulletins (NOAAPort, NWS FTP, WxWire, UKMO) as well as those that are submitted through TWC aviation applications. PIREPs report on multiple phenomena such as turbulence, icing, low level wind shear, urgent meteorological, and routine meteorological observations.

PIREPs are made available as they are received. The observations become less important as time passes and conditions are able to change. The latency can largely depend on the pilot/dispatcher submitting the report since there is no automation involved. For this reason it can be many minutes between experiencing the phenomena and the report being made available for use.

The JSON data includes the following fields:

Field *Found in the GeoJSON response, in each feature's **properties** field*	**Description**
Valid_time	Unix Timestamp when the Sigmet was queried
Aircraft_id	Identifier of the aircraft (Flight or tail number). Defaults P- when unknown
Msg_type	Code for type of message (U=urgent, S=special, R=routine)
Report_type	Format of raw report, e.g. PIREP, AIREP
Airline	Id for airline that operates the aircraft
Aircraft_type	Type of Aircraft
Time_qc	Quality control flag for time (G=good,B=bad,E=estimated)
Fl_qc	Quality control flag for flight level (G=good, B=bad, E=estimated, C=categorical (non-numeric))
Flight_level	Textual identifier for the flight level
Lower_fl	Lower numeric flight level in hundreds of Feet
Upper_fl	Upper numeric flight level in hundreds of Feet
Flight_mode	Indicates if aircraft is climbing (A) or descending (D)
Rpt_site_id	Site through which the PIREP was reported. Sometimes used to indicate the general region in which the PIREP is located
Departure_id	Airport from which the aircraft departed
Destination_id	Airport to which the aircraft is travelling

Wmo_region	Two character WMO geographic area code (group A1A2, WMO table C1), indicating indicating the general location of the PIREP
Navfix_id	Navigational fix used to determine location; may have 6-digit suffix containing azimuth (deg) and range (Nmi) from the fix location
Navfix_id2	Secondary navigational fix; used if the primary is unknown
Loc_qc	Quality control flag for location (G=good,B=bad,E=estimated)
Temperature	Air temperature in Celsius
Dew_point	Dew point in Celsius
Wind_speed	Wind Speed in Knots
Wind_direction	Wind Direction in degrees
Visibility	Horizontal Visibility in meters
Turbulence_text	Raw text for turbulence
Turbulence_intensity	Index for intensity of turbulence 1 – Smooth 2 – Smooth-Light 3 – Light 4 – Light-Moderate 5 – Moderate 6 – Moderate-Severe 7 – Severe 8 – Extreme
Turbulence_frequency	Index for frequency of turbulence 1 – Occasional 2 – Intermittent 3 – Continuous
Turbulence_type	Enumeration for type of turbulence 1 – CHOP 2 – TURB
icing_text	Raw text for icing

icing_intensity	Index for intensity of icing 1 – Negligible 2 – Trace 3 – Light 4 – Light-Moderate 5 – Moderate 6 – Moderate-Severe 7 – Severe 8 – Extreme
icing_frequency	Index for frequency of icing 1 – Occasional 2 – Intermittent 3 – Continuous
icing_type	Enumeration for type of icing 1 – RIME 2 – MIXED 3 - CLEAR
Llws_text	Raw text for Low-Level Wind Shear
Airspeed_tendency	Code indicating direction of changes, e.g. +, -, or +/- for both
Min_airspeed_change	Smallest reported airspeed change (absolute value) in Knots
Max_airspeed_change	Largest reported airspeed change (absolute value) in Knots
Cloud_base_height	Array of cloud base heights for each cloud deck in hundreds of Feet
Cloud_top_height	Array of cloud top heights for each cloud deck in hundreds of Feet
Cloud_cover	Array of cloud covers for each cloud deck in percent coverage
Cloud_type	Array of cloud types for each cloud deck
Sky_condition_text	Raw text for sky conditions
Weather_text	Raw text from weather group
Ac_cloud_env	Indicates if aircraft is in cloud or in meteorological conditions (IMC)

Undecoded_groups	Undecodable text from the main groups
Remarks	Remarks section from report
Data	Raw data of pilot report
Aircraft_weight_class	Aircraft Weight Class, e.g. S(mall), L(arge), or H(eavy)
Engine_type	Engine Type, e.g. J(et), T(urboprop), or P(iston)